Summary
of
Testimony
of

Peter K. Pitsch

Hearings
on
Reauthorization
of the
National Telecommunications and Information Administration

Before the
House Subcommittee
on Telecommunications, Trade, and Consumer Protection

April 24, 1997

Information Infrastructure Grants

In a time requiring fiscal restraint, it appears unlikely that the Information Infrastructure Grant Program can pass a cost-benefit test. Few areas of the U.S. economy have generated more interest than that of the information technologies. As performance/cost ratios of computer and telecommunications goods and services have grown dramatically, private and public sector investment in this area, as well as public discussion and interest, have burgeoned. There is no evidence of significant market failures in the development and deployment of information technologies. There are strong private and public incentives to use these technologies. In this context, it is farfetched to justify Information Infrastructure Grants for stimulus reasons or American competitiveness. Nor is there evidence that state and local governments have been impervious to these developments. Interest is prevalent and many successful applications have already been demonstrated. To the extent that there is a need in this area, it could be met by publicizing existing successes at the federal and state level.

The last argument proffered for the grant program is that it will create a more equitable deployment of these exciting new technologies. Given our past experience and the complexities of the technologies and the underlying social problems they are attempting to address, such a system of federally-administered "in-kind" welfare should set off many alarms. To the extent that there is a problem it is doubtful that it can be effectively addressed in this fashion. State and local governments which will be closer to the problems and have a better idea of what solutions will fit their needs should be making these decisions. The penetration of new technologies in a society necessarily starts out small. Nonetheless, with the advent of the microchip it is taking less and less time for new products to spread into the population.

Management of the Federal Spectrum

The NTIA can and should take the lead in reforming the federal government's use of the spectrum. At a minimum it should be required to conduct various privatization experiments that could form the basis for more substantial reforms in the future. The federal government should continue to relinquish spectrum to the private sector. Congress should be congratulated for starting and expanding this process. To facilitate the reclamation of additional spectrum NTIA should explore the feasibility of creating incentive-based mechanisms that would encourage federal agencies to secure more of their telecommunications services directly from the private sector. One approach would be to target federal spectrum that could be used to create so called overlay licenses such as those developed in PCS. Existing government users in these bands could receive flexibility in their use of this spectrum including permission to receive compensation for transferring spectrum rights and the ability to transfer an existing license to any government or non-government entity. Moreover, government agencies and personnel could receive incentives (such as a share in auction proceeds and employee bonuses, respectively) for opening spectrum to the private sector. Government users should also receive permission to become licensees of non-government spectrum in the same ways available to private sector applicants.

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It is an honor to have this opportunity to testify before this Subcommittee concerning the reauthorization of the National Telecommunications and Information Administration (NTIA). I have closely followed telecommunications issues and the NTIA inside and outside of government for over 15 years. From 1981 to 1987 I served as Chief of the Federal Communications Commission's (FCC) Office of Plans & Policy for Chairman Mark Fowler and from 1987 to 1989 as Chief of Staff to Chairman Dennis Patrick. During those eight years I was involved in the full gamut of telecommunications issues and had frequent opportunities to work with and observe at first hand the staff of NTIA in action. Since I left the FCC I have remained active in the telecommunications area as a lawyer, consultant, author, law professor and adjunct fellow at various think tanks. The views I offer today are mine and do not represent the views of any other entity with which I am affiliated.

NTIA's basic responsibilities include adminstering the Information Infrastructure Grant Program. It provides domestic and international analysis and support for the executive branch and it coordinates the management of the federal government's use of spectrum. Further, it conducts telecommunications research to stimulate product development and service provision.

I wish to concentrate my remarks on NTIA's grant program and spectrum management responsibilities, but at the outset will briefly comment on its analysis and research responsibilities. Few would dispute that the telecommunications sector of the American economy is dynamic and vibrant. As the regulated half of the digital revolution, however, problems in this sector have frequently resulted from too much regulation and too little competition. Government involvement should be based on a clear demonstration of market failure and that the proposed regulation will in fact improve the situation. In the policy arena, NTIA often has worked to eliminate

counterproductive or unnecessary regulation and create conditions conducive to the development of competition in telecommunications in the U.S. and in other countries. If NTIA were to so confine its activities, its current expenditures in this area could be cost effective. I will close my testimony with an example of where NTIA could play an important role--reform of the federal government's use of spectrum. Regarding government research in telecommunications, NTIA should be limited to areas of basic research where so called "free rider" problems might lead the private sector to underinvest. In general, I believe this Subcommittee should insist that any technical research by NTIA be justified on this basis or a similar showing of market failure..

In a time requiring fiscal restraint, it appears unlikely that the Information Infrastructure Grant Program can pass a cost-benefit test. Various rationales have been offered for this program. First, NTIA urges that the grant program will generate significant additional public sector interest in using the new information technologies. Second, it is hoped that it will demonstrate ways in which these new technologies can be profitably used by the public sector. Third, it is claimed that it will provide additional stimulus to the private telecommunications and computer sectors. Lastly, NTIA states that the grant program will foster use of information technologies by entities that would otherwise not be able to afford them.

These first three contentions are obviously insufficient. Few areas of the U.S. economy have generated more interest than that of the information technologies. As the performance/cost ratios of computer and telecommunications goods and services have grown dramatically, private and public sector investment in this area, as well as public discussion and interest, have burgeoned. There is no evidence of significant market failures in the development and deployment of information technologies. There are strong private and public incentives to use these technologies. The

traditional network externality arguments for subsidizing access to the public telephone network do not apply. Direct efforts at subsidizing the new technologies in other countries have been clear failures. In contrast, as prices have fallen and capabilities expanded in the U.S., private sector investment has boomed. The United States leads the world in standard measures of use, such as number of computers per 100 workers, the number of desktop computers linked through networks, and Internet usage. An analysis by McKinsey & Co. found that the U.S. telecommunications industry is often twice as productive as its counterparts in major European countries. Whereas U.S. capital spending increased across the board between 1992 and 1995, computer investment in constant dollars increased by a breathtaking 184 percent.[1]

In this context, it is farfetched to justify Information Infrastructure Grants for stimulus reasons or American competitiveness. Nor is there evidence that state and local governments have been impervious to these developments. Interest is prevalent and many successful applications have already been demonstrated.[2] To the extent that there is a need in this area, it could be met by publicizing existing successes at the federal and state level. For example, the FCC has developed a very useful and successful home page. The FCC's Home Page had 135,643 hits per day during the past February and March. This figure is up from 37,647 per day during the same period in the

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[1] Joseph Spiers, "The Most Important Economic Event of the Decade," *Fortune*, April 3, 1995, p. 33 (quoted in Peter K. Pitsch, *The Innovation Age* (The Hudson Institute and Progress & Freedom Foundation 1996), p. 95).

[2] I note, for example, that it is implausible that giving $400,000 to the San Diego Police Department, the Orange County Sheriff's Office, the Santa Clara Sheriff's Office and the California Department of Motor Vehicles can be justified on the basis of a lack of knowledge or sophistication about the potential of information technologies. (See California Department of Justice Project, p. 7).

previous year.[3]

The last argument proffered for the grant program is that it will create a more equitable deployment of these exciting new technologies. Given our past experience and the complexities of the technologies and the underlying social problems they are attempting to address, such a system of federally-administered "in-kind" welfare should set off many alarms. To the extent that there is a problem it is doubtful that it can be effectively addressed in this fashion. State and local governments who will be closer to the problems and have a better idea of what solutions will fit their needs should be making these decisions.

In this regard, I would like to point out that there is considerable debate over the role of these technologies in education. Even educators are uncertain as to the outcome of using high-tech systems in schools, such as the geosystems approach to science introduced in Fairfax County where trade-offs in teaching time have had to be made.[4] I give this example not to take sides, but to urge caution generally and to note that experimentation in this complicated area is likely to be better if it is highly decentralized.

Lastly, I would point out that the penetration of new technologies in a society necessarily starts out small. The so called "early adopters" tend to pay a higher price and take risks of obsolescence.[5] Moreover, the presence of early adopters for successful new technologies has not

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[3] Statement of Reed E. Hundt, Chairman, FCC, on the FCC's Fiscal Year 1998 Budget Estimates Before the Subcommittee on Commerce, Justice, State, and Judiciary, Committee on Appropriations, United States Senate, April 16, 1997, p. 7.

[4] Amy Virshup, "Surfing Tidal Wave," *Washington Post Magazine*, February 2, 1997, pp. 10,24.

[5] Consider video disk players, eight track stereo systems and Beta VCRs.

led to a society of "haves" and "have-nots". Consider radios, televisions, automobiles, VCRs and microwave ovens. Also, the pace at which new technologies are penetrating American society appears to be dramatically increasing. The Federal Reserve Bank of Dallas reports,

> As the economy evolves, it takes less and less time for new products to spread into the population. It took 46 years for a quarter of American homes to be wired for electricity. Getting phones to a fourth of America took 35 years; cars, 55. More recently, however, the PC required only 16 years, the cellular phone 13 and the Internet seven. Even the microwave oven and VCR illustrate the speedup in diffusion since the microchip's introduction in 1971. Though both products were invented in the early 1950s, as late as 1971 fewer than 1 percent of households had either. Riding the cost-cutting wave of the microchip, however, a quarter of American homes enjoyed both by 1986.[6]

I want to close by discussing one of the most important opportunities facing NTIA--the reform of the federal government's use of the electromagnetic spectrum. The NTIA can and should take the lead in reforming the federal government's use of the spectrum. At a minimum it should be required to conduct various privatization experiments that could form the basis for more substantial reforms in the future.

The need for reform in this area is great. There are two fundamental problems with the current system. They span the 60-year history of government-planned spectrum management and continue to this day. They are systemic. One, the federal government like other central planners lacks the information necessary to make efficient decisions. Two, the current system has held fallow or underutilized a substantial portion of the spectrum for government purposes. While there is some debate on how much spectrum is effectively denied to the private sector, there can be little doubt that it is in absolute terms a huge amount. My estimate based on information generated by NTIA is that

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[6] "Technology and Growth in the Information Age--And Beyond," Federal Reserve Bank of Dallas 1996 Annual Report, Exhibit D.

in practice the federal government has exclusive use of roughly one-third of the spectrum below 30 GHz. Many governmental uses of spectrum are vital; others are not. All of these uses should be justified economically. Today government users of spectrum have access to spectrum at far less cost than that available to non government users. Recall that in the MTA PCS auctions the winners paid over $7 billion for 60 MHz of PCS spectrum.

In brief, two reforms should be employed. First, the federal government should continue to relinquish spectrum to the private sector. Congress should be congratulated for starting and expanding this process. Although this process has met with some resistance, I believe more can be done.

Second, to facilitate the reclamation of additional spectrum NTIA should explore the feasibility of creating incentive-based mechanisms that would encourage federal agencies to secure more of their telecommunications services directly from the private sector. I believe the time has come to place reliance on the carrot as well as the stick. NTIA could consider a variety of mechanisms. One approach would be to target federal spectrum that could be used to create so called overlay licenses such as those developed in PCS. Existing government users in these bands could receive flexibility in their use of this spectrum including permission to receive compensation for transferring spectrum rights and the ability to transfer an existing license to any government or non-government entity. Moreover, government agencies and personnel could receive incentives (such as a share in auction proceeds and employee bonuses, respectively) for opening spectrum to the private sector. Government users should also receive permission to become licensees of non-government spectrum in the same ways available to private sector applicants.

Such an incentive-based approach would address the current spectrum gridlock. The logic

of this reform is easily illustrated. Typically, a government user of spectrum has two choices: (1) use its spectrum for a narrow purpose or (2) give it back. Given this choice, the current spectrum use will be economic to the user as long as it has any positive value. In economic terms the "opportunity cost" of the spectrum to the user is zero. The cost to society, of course, is any foregone alternative use that is more valuable.

Once a government user is given the freedom to use its spectrum for a broad range of uses, however, it has a strong incentive to consider the relative merits of alternative uses. The more flexibility a government user has, the more likely its use will be the highest and best use reflecting the spectrum's true opportunity cost to society. Government agencies should be encouraged to sell or sublease their spectrum to the private sector. Creating incentives for government users to move "beach front" spectrum from its current "land dump" uses. In this parlance, the current "beach property owners" may not appreciate these efforts, but they will not be able to stop them. Indeed, they might well choose to join them. In the end, America's "beach-consuming public" will benefit.

I hereby acknowledge that I have received no federal grants or contracts during the current fiscal year or either of the two preceding fiscal years.

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Peter K. Pitsch